

Cariological and Salivary Studies in 70-Year-Old Cohorts

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av

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- I. Österberg T, Birkhed D, Johanson CN, Svanborg A. Longitudinal study of stimulated whole saliva in an elderly population. *Scand J Dent Res* 1992;100:340-345.
- II. Österberg T, Johanson CN, Sundh V, Steen B, Birkhed D. Secular trends of dental status in five 70-year-old cohorts between 1971 and 2001. *Community Dent Oral Epidemiol* 2006;34:446-454.
- III. Johanson CN, Österberg T, Steen B, Birkhed D. Prevalence and incidence of dental caries and related risk factors in 70- to 76-year-olds. *Acta Odontol Scand* 2009;67:304-312.
- IV. Johanson CN, Österberg T, Lernfelt B, Ekström J, Birkhed D. Salivary secretion and drug treatment in four 70-year-old Swedish cohorts during a period of 30 years. Manuscript.

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Abstract

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Life expectancy after 65 years of age has increased markedly during the last decades, and is still increasing. The purpose of this thesis was to describe differences in dental health between 70-year-olds born in different years, to describe caries prevalence, incidence over a 6-year period in one cohort, and try to find risk factors for dental caries. Furthermore, the aim was to study possible effect of aging or drug treatment on salivary secretion rate, but also the utilization of dental care in all cohorts. Five 70-year-old cohorts have been studied cross-sectional and longitudinal between 1971 and 2001, within the gerontological and geriatric population study in Gothenburg, named H70. From these cohorts, subsamples (n=801) or all (n=1489) individuals were odontologically examined. The proportion of dentate subjects changed gradually from 49% in cohort I to 93% in cohort VI. Mean number of remaining teeth in the dentate also increased from 13.6, in 1971 to 20.9, in year 2001. However, factors as for example, a low education, being un-married and physically inactive were negatively related to number of teeth. In cohort III, mean number of decayed surfaces was 2.1 compared to 1.3 in cohort VI, born and examined, 20 years later. The prevalence of caries decreased between the ages of 70 and 76, in cohort III. About 60% of the individuals developed new primary caries lesions and around 50% got root surface caries. There was also an increase in number of filled tooth surfaces. A significant decrease was seen in visible plaque index, in both women and men, between 70 years and 76 years. Gingivitis and pocket depth over 4 mm correlated with decayed and missing surfaces, while the visible plaque index correlated to only missing surfaces. Men had a significant higher stimulated salivary secretion rate than women in all cohorts and at all ages. There were, however, no significant differences in unstimulated salivary secretion rate, either between women or men, or between cohorts. The individuals with drug treatment increased during these 30 years from 57 to 67%. An increase in the number of drugs was also seen. In year 1971, 10% took 4 or more different drugs, which increased to 20% in year 2001. Yearly visit to a dentist increased during the study period, most among those with less number of teeth. Conclusively this thesis showed a positive cohort trend in dental health status. The prevalence and the incidence of dental caries were moderate. No decrease in salivary secretion rate with increasing age was seen. However, with an increase in number of drugs, the salivary secretion rate decreased.

Key-words: cohort differences, cross-sectional, dental health, elderly, epidemiology, lifestyle, longitudinal, medication, population study, saliva, socioeconomic

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